

# CARE IN HOSPITAL FOR CHILDREN AND ADOLESCENTS WITH MILD TO MODERATE COVID-19



NATIONAL  
CLINICAL  
EVIDENCE  
TASKFORCE

COVID-19

## FORMS OF GUIDANCE

Evidence-Based Recommendation (EBR)  
Consensus Recommendation  
Good Practice Point

Types  
of  
EBRs

RECOMMENDATION FOR USE

RECOMMENDATION AGAINST USE

CONDITIONAL RECOMMENDATION  
FOR USE

CONDITIONAL RECOMMENDATION  
AGAINST USE

VERSION 2.1

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General

## PATIENTS

- This flowchart applies to children in hospital due to acute COVID-19.
- This flowchart applies to children under 16 years of age.
- Depending on the physical size and/or developmental status of the patient, either the paediatric or adult flowcharts can be applied.

## CLINICAL PRESENTATION

This flowchart should be applied after considering the clinical presentation of the patient and risk factors that might increase their overall risk of deterioration.

## RISK FACTORS FOR POOR OUTCOMES

### Clinical risk factors include:

- no vaccine dose or SARS-CoV-2 infection in past 6 months
- very young age (<1 month)
- paediatric complex chronic conditions (PCCC)
- severe asthma
- obesity (BMI >95th percentile for age)
- immunocompromising conditions

For further details and other risk factors for poor outcomes, refer to:

- [PATHWAYS TO CARE FOR CHILDREN AND ADOLESCENTS WITH COVID-19 Clinical Flowchart](#).

## ASSESSMENT OF RISK FACTORS AND CLINICAL STATUS

Consider differential diagnoses for presentation, including co-infections or secondary bacterial infection, as this will determine the requirement for other investigations, such as imaging.

Refer to 'Other Illness' below.

## MANAGING RISK OF INFECTION

Refer to local hospital protocols and policies for infection prevention and control.

## Definition of disease severity

### MILD ILLNESS

#### Respiratory/vital signs

- No or mild upper respiratory tract symptoms, OR
- No or mild work of breathing

#### Feeding/hydration

- Normal or mildly reduced feeding

#### Conscious state

- Normal

### MODERATE ILLNESS

#### Respiratory/vital signs

- Moderate work of breathing, OR
- Abnormal vital signs for age (tachycardia, tachypnoea) but does not persistently breach Early Warning Criteria (e.g. Medical Emergency Team [MET]), OR
- Brief self-resolving apnoea (infants)

#### Feeding/hydration

- Poor feeding, unable to maintain hydration without nasogastric or IV fluids, AND
- Normal conscious state

#### Oxygen requirement

- Individuals requiring low-flow oxygen and/or with chest x-ray changes due to COVID-19 without other severe features

Treatments

## COVID-19 THERAPIES

### VTE PROPHYLAXIS

#### CONSENSUS RECOMMENDATION

#### Thromboprophylaxis

For all children and adolescents hospitalised for COVID-19, the following are recommended to prevent thrombosis, based on age and risk assessment.

- In children and adolescents aged **12 years and over** who are hospitalised specifically for COVID-19 treatment and with no contraindications to anticoagulants<sup>#</sup>, use prophylactic doses of LMWH\* and mechanical thromboprophylaxis (TED stockings or calf compressors) until discharge from hospital.
- In children **less than 12 years old** who are hospitalised specifically for COVID-19 treatment and **with either D-dimer levels > 5 x upper limit normal, or additional thrombosis risk factors<sup>^</sup>** (including hospital associated VTE), use prophylactic doses of LMWH\* and mechanical thromboprophylaxis (TED stockings or calf compressors) where suitable based on size and mobility until discharge from hospital.

### OXYGEN

#### GOOD PRACTICE POINT

Children who only require low-flow oxygen to maintain saturations or resolve increased work of breathing can generally be managed on the ward rather than being transferred to ICU.

### DRUG TREATMENTS

Consider eligibility for COVID-19 drug treatments, depending on time since symptom onset and risk factors for disease progression.

There are limited data on the efficacy of drug treatment in children and adolescents.

#### Refer to:

- Summary of recommendations in [DRUG TREATMENTS FOR CHILDREN AND ADOLESCENTS WITH COVID-19 Clinical Flowchart](#)
- Decision Tool for [DRUG TREATMENTS FOR AT RISK CHILDREN AND ADOLESCENTS WITH COVID-19 WHO DO NOT REQUIRE OXYGEN](#)

Treatments	THERAPIES FOR OTHER CONDITIONS	GENERAL	<p style="text-align: right; margin: 0;"><b>GOOD PRACTICE POINT</b></p> <p>Ensure patient continues to receive their usual care for pre-existing conditions.</p>	OTHER ILLNESS	<p style="text-align: right; margin: 0;"><b>GOOD PRACTICE POINTS</b></p> <p><b>Differentiating COVID-19 from other illness</b></p> <ul style="list-style-type: none"> <li>Be aware that a patient may have co-infections or other risk factors that may drive their illness.</li> <li>Co-infections (e.g. influenza, RSV, enterovirus) and other clinical presentations (e.g. croup, bronchitis, bronchiolitis) should be managed as per relevant standards of care <i>in addition</i> to the management of COVID-19.</li> </ul>
	ASTHMA AND OTHER LUNG CONDITIONS	<p style="text-align: right; margin: 0;"><b>CONSENSUS RECOMMENDATION</b></p> <p>Use inhaled or oral steroids for the management of people with co-existing asthma or lung conditions and COVID-19 as you would normally for viral exacerbation of condition.</p> <p>Puffers and spacers are preferred in order to decrease the risk of SARS-CoV-2 transmission that may be associated with nebuliser use.</p>			
Monitoring	THINGS TO WATCH FOR	<p style="color: red; margin: 0;"><b>Symptoms or signs of SEVERE or CRITICAL illness</b></p> <p><b>Any one of:</b></p> <p><b>Respiratory/vital signs</b></p> <ul style="list-style-type: none"> <li>Moderate-severe work of breathing or unable to maintain breathing or prevent apnoea without advanced modes of support</li> <li>Abnormal vital signs for age (tachycardia, tachypnoea) with breaches of Early Warning Criteria (e.g. MET)</li> <li>Apnoea needing support / stimulation (infants)</li> <li>Haemodynamically unstable without inotropic or vasopressor support</li> <li>Other vital organ failure</li> </ul> <p><b>Oxygen requirement</b></p> <ul style="list-style-type: none"> <li>Requires high-flow oxygen, non-invasive ventilation or mechanical ventilation</li> </ul> <p><b>Conscious state</b></p> <ul style="list-style-type: none"> <li>Drowsy / tired or unconscious</li> </ul>	➔	TRANSFER TO ICU	
	<p style="color: red; margin: 0;"><b>PIMS-TS</b></p> <p>Paediatric Inflammatory Multisystem Syndrome is a rare complication of COVID-19 in children.</p> <p>A Clinical Flowchart on caring for children with suspected or confirmed PIMS-TS/MIS-C is in development.</p>				
ESCALATION OF CARE					
HOSPITALS WITHOUT AN ICU, NICU OR PICU					
<p style="text-align: right; margin: 0;"><b>GOOD PRACTICE POINT</b></p> <p>Consider the need for <b>early transfer</b> of patients to a higher-level facility with an age-appropriate ICU.</p>					
HOSPITALS WITH AN ICU, NICU OR PICU					
<p><b>Refer to:</b></p> <ul style="list-style-type: none"> <li><a href="#">CARE IN HOSPITAL FOR CHILDREN AND ADOLESCENTS WITH SEVERE TO CRITICAL COVID-19 Clinical Flowchart</a></li> </ul> <p>FNB: A Clinical Flowchart on caring for children with suspected or confirmed PIMS-TS/MIS-C is in development.</p>					
Next steps	DISCHARGE FROM HOSPITAL	<p style="text-align: right; margin: 0;"><b>GOOD PRACTICE POINT</b></p> <p>Discharge patients to home isolation unless they meet relevant State or Territory public health criteria for release from isolation.</p>			
	FOLLOW-UP CARE	<p style="text-align: right; margin: 0;"><b>GOOD PRACTICE POINTS</b></p> <ul style="list-style-type: none"> <li>Review medications that were stopped or started in setting of COVID-19 therapeutics.</li> <li>Provide advice on age-appropriate vaccination, including influenza vaccination, after recovery from COVID-19.</li> <li>For some patients, symptoms may persist for longer than 4 weeks or new symptoms may develop. For patients who present with possible long-term symptoms of COVID-19, supportive treatment is required.</li> </ul> <p><b>Refer to:</b></p> <ul style="list-style-type: none"> <li><a href="#">CARE OF PEOPLE AFTER COVID-19 Clinical Flowchart</a></li> </ul>			
<p><b>Key source</b></p> <p><a href="#">National COVID-19 Clinical Evidence Taskforce</a> – Australian guidelines for the clinical care of people with COVID-19.</p>					

# Contraindications to thromboprophylaxis

- Stroke / intracranial haemorrhage
  - Any bleeding from any site / uncontrolled bleeding
  - Likely to need surgery in <24 hours
  - Congenital bleeding disorder (e.g. Von Willebrand Disease, haemophilia)
  - Platelets <50x10<sup>9</sup>/L and/or INR >1.8
  - Uncontrolled hypertension
- Consider unfractionated heparin (UFH)

\* Dose of low molecular weight heparin (LMWH)

- ≥3 months old – enoxaparin 0.5 mg/kg BD (max 60 mg BD)
- <3 months old – enoxaparin 0.75 mg/kg BD
- UFH is an alternative to LMWH and can be considered if there is potential for surgical intervention, renal impairment or other clinical factors that would normally favour UFH over LMWH. Dosing should be advised by paediatric haematology.

Where eGFR is <30 mL/min/1.73 m<sup>2</sup>, UFH or clearance-adjusted doses of LMWH may be used (discuss with paediatric haematologist).

^ Thrombosis risk factors

- Admission to PICU
- Obesity (BMI >95th centile)
- Central venous catheter
- Length of stay anticipated >3 days
- Immobility that is not longstanding
- Personal history of VTE
- Known thrombophilia
- First degree relative with VTE
- Active malignancy
- Recent surgery / trauma
- Severe dehydration
- Underlying medical condition: nephrotic syndrome, cystic fibrosis, sickle cell disease, cardiac disease, chronic inflammatory disorder (juvenile idiopathic arthritis, inflammatory bowel disease), post splenectomy